

AMENDMENTS TO THE CLAIMS

Please amend Claims 1, 14, 16 and 21 as follows.

1. (Currently amended) A method of transmitting a digital signal, comprising:

quantizing a source digital signal to generate at least a first and a second bit-stream each having a different quantization, wherein at least one of the first and second bit-streams has been generated by embedded quantization;

transmitting at least one of the at least first and second bit-streams; and

generating a dequantized digital signal from at least parts of one of the transmitted at least first and second bit streams;

wherein the generating comprises combining the parts of the at least first and second bit-streams, the combined dequantized signal being generated by embedded dequantization in which at least two quantization levels and at least one quantization interval, at each quantization level, are provided, and wherein the at least one quantization interval is shorter than quantization intervals for dequantizing any of the at least first and second bit-streams.
2. (Previously presented) The method of Claim 1, wherein each quantization level has a quantization rate and the at least one bit-stream is generated by embedded quantization where at least two quantization intervals at a same lower quantization rate are split into a different number of quantization intervals at a same higher quantization rate.
3. (Previously presented) The method of Claim 2, wherein the at least one bit-stream is generated by non-uniform embedded quantization.
4. (Previously presented) The method of Claim 3, wherein the at least one bit-stream is generated by non-uniform embedded dead zone quantization.
5. (Previously presented) The method of Claim 4, wherein the at least one bit-stream is generated by non-uniform embedded double dead zone quantization.
6. (Previously presented) The method of Claim 1, wherein the at least one bit-stream is generated by uniform embedded quantization.

7. (Previously presented) The method of Claim 6, wherein the at least one bit-stream is generated by uniform embedded dead zone quantization.

8. (Previously presented) The method of Claim 7, wherein the at least one bit-stream is generated by uniform embedded double dead zone quantization.

9. (Previously presented) The method of Claim 1, wherein each bit-stream is generated by embedded quantization.

10. (Original) The method of Claim 1, further comprising selecting end points of quantization intervals of a quantizer such that at least one of the end points does not coincide with end points of a quantization interval of another quantizer.

11. (Previously presented) The method of Claim 1, wherein the embedded quantization comprises at least three quantization levels.

12. (Original) The method of Claim 1, wherein the quantizing of the source digital signal comprises embedded successive approximation quantization at every quantization level.

13. (Original) The method of Claim 1, further comprising controlling redundancy for each quantization level.

14. (Currently amended) A device for transmitting a digital signal, comprising:

a quantizer configured to quantize a source digital signal to generate at least a first and a second bit-stream each having a different quantization, wherein at least one of the first and second bit-streams has been generated by embedded quantization; and

a transmitter configured to transmit at least one of the at least first and second bit-streams, the quantizer being configured such that when a dequantized digital signal is generated from at least parts of one of the transmitted at least first and second bit streams, the parts of the at least first and second bit-streams are combined, the combined dequantized signal being generated by embedded dequantization in which at least two quantization levels and at least one quantization interval, at each quantization level, are provided, wherein the at least one quantization interval is shorter than quantization intervals for dequantizing any of the at least first and second bit-streams.

15. (Previously presented) A device for receiving a digital signal, comprising:
a receiver configured to receive at least a first and a second bit-stream; and
a dequantizer configured to generate a dequantized digital signal from the received first and second bit-streams, wherein the dequantizer is further configured to combine, in the generation of the dequantized digital signal, the at least first and second bit-streams, the combined dequantized signal being generated by embedded dequantization in which at least two quantization levels and at least one quantization interval, at each quantization level, are provided, and wherein the at least one quantization interval is shorter than quantization intervals for dequantizing any of the at least first and second bit-streams.

16. (Currently amended) Two or more signals generated by a method of transmitting a digital signal, wherein the method comprises:

quantizing a source digital signal to generate at least a first and a second bit-stream each having a different quantization, wherein at least one of the first and second bit-streams has been generated by embedded quantization;

transmitting at least one of the at least first and second bit-streams; and

generating a dequantized digital signal from at least parts of one of the transmitted at least first and second bit streams;

wherein the generating comprises combining the parts of the at least first and second bit-streams, the combined dequantized signal being generated by embedded dequantization in which at least two quantization levels and at least one quantization interval, at each quantization level, are provided, and wherein the at least one quantization interval is shorter than quantization intervals for dequantizing any of the at least first and second bit-streams.

17. (Original) The device of Claim 14, wherein the device is integrated in a node of a telecommunications network.

18. (Original) The device of Claim 15, wherein the device is integrated in a node of a telecommunications network.

19. (Original) The device of Claim 14, wherein the device is integrated in a telecommunications network.

Appl. No. : 10/813,811
Filed : March 30, 2004

20. (Original) The device of Claim 15, wherein the device is integrated in a telecommunications network.

21. (Currently amended) A computer readable medium for storing executable codes, wherein the executable codes are configured to transmit a digital signal and wherein the medium comprises:

a code configured to quantize a source digital signal to generate at least a first and a second bit-stream each having a different quantization, wherein at least one of the first and second bit-streams has been generated by embedded quantization;

a code configured to transmit at least one of the at least first and second bit-streams; and

a code configured to generate a dequantized digital signal from at least parts of one of the transmitted at least first and second bit streams,

wherein the parts of the at least first and second bit-streams are combined, the combined dequantized signal being generated by embedded dequantization in which at least two quantization levels and at least one quantization interval, at each quantization level, and wherein the at least one quantization interval is shorter than quantization intervals for dequantizing any of the at least first and second bit-streams.

22. (Previously presented) A method of receiving a digital signal, comprising:

receiving at least a first and a second bit-stream; and

generating a dequantized digital signal from the received first and second bit-streams, wherein the at least first and second bit-streams are combined, the combined dequantized signal being generated by embedded dequantization in which at least two quantization levels and at least one quantization interval, at each quantization level, are provided, and wherein the at least one quantization interval is shorter than quantization intervals for dequantizing any of the at least first and second bit-streams.

23. (Previously presented) The method of Claim 1, wherein the embedded quantization comprises at least seven quantization levels.

24. (Previously presented) The method of Claim 1, wherein the embedded quantization comprises at least ten quantization levels.

25. (Previously presented) A device for receiving a digital signal, comprising:
means for receiving at least a first and a second bit-stream; and
means for generating a dequantized digital signal from the received first and second bit-streams, wherein the generating means is configured to combine at least first and second bit-streams, the combined dequantized signal being generated by embedded dequantization in which at least two quantization levels and at least one quantization interval, at each quantization level, are provided, and wherein the at least one quantization interval is shorter than quantization intervals for dequantizing any of the at least first and second bit-streams.

26. (Previously presented) A device for receiving a digital signal, comprising:
an I/O interface configured to receive at least a first and a second bit-stream;
a memory which stores a program, wherein the program is configured to generate a dequantized digital signal from the received first and second bit-streams, wherein the at least first and second bit-streams are combined, the combined dequantized signal being generated by embedded dequantization in which at least two quantization levels and at least one quantization interval, at each quantization level, are provided, and wherein the at least one quantization interval is shorter than quantization intervals for dequantizing any of the at least first and second bit-streams; and

a microprocessor configured to execute the program stored in the memory.

27. (Previously presented) A device for receiving a digital signal, comprising:
an I/O interface configured to receive at least a first and a second bit-stream; and
a dequantizer module configured to generate a dequantized digital signal from the received first and second bit-streams, wherein the dequantizer module is further configured to combine at least first and second bit-streams, the combined dequantized signal being generated by embedded dequantization in which at least two quantization levels and at least one quantization interval, at each quantization level, are provided, and wherein the at least one quantization interval is shorter than quantization intervals for dequantizing any of the at least first and second bit-streams.